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## Foreign Documents Branch C I A Periodical Abstracts

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SCIENTIFIC

Number 52

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"Doklady Akademii Nauk SSSR, Novaya Seriya" (Reports of the Academy of Sciences of the USSR, New Series) Cards 10-15, 21, 22, 31-34, 38-44, 47-59, 89-94	Vol LVIII No 1	Oct 1947
"Entomologicheskoye Obozreniye" (Entomological Review)* Cards 60-68	Vol XXVIII No 3/4	Mar 1945
"Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk" (News of the Academy of Sciences of the USSR, Department of Technical Sciences) Cards 30, 45, 46	No 11	Nov 1947
"Prikladnaya Matematika i Mekhanika" (Applied Mathematics and Mechanics) Cards 19, 20, 95-97	Vol XI No 6	Nov/Dec 1947
"Promyshlennaya Energetika" (Industrial Energetics) Cards 16-18, 28, 29	No 12	Dec 1947
"Ugol'" (Coal) Cards 79-82	No 11	Nov 1947
"Ugol'" (Coal) Cards 83-87	No 12	Dec 1947
"Vestnik Svyazi - Pochta" (Herald of Communications - Mail) Cards 98-99	No 12	Dec 1947
"Za Ekonomiyu Topliva" (Fuel Conservation)* Cards 23-27, 71	No 12	Dec 1947
"Zapiski Vserossiyskogo Mineralogicheskogo Obshchestva" (Memoirs of the All-Russian Mineralogical Society) Cards 35-37, 69, 72-78	No 3	Oct 1947

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NOTE

In indexing these abstracts the following guides are used: MEDICINE - "Quarterly Cumulative Index Medicus," American Medical Association; CHEMISTRY - "Chemical Abstracts Subject Index," American Chemical Society; GENERAL - "Subject Headings for Technical Libraries," US Department of Commerce, Office of Technical Services.

Distribution

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FDB Periodical Abstracts Scientific No 52		FDB Periodical Abstracts Scientific No 52	
USSR/Chemistry - Hydrogen, Flames of Chemistry - Hydrogen, Atomic	Jul/Aug 1946	USSR/Chemistry - Condensation, Chemical Poly- Chemistry - Amides, Poly - Acidolysis and Aminolysis of	Jul/Aug 1946
"Hydrogen Atoms in Hydrogen Flames," H. Kondratieva, V. Kondratiev, Inst Chem Phys, Acad Sci USSR, Moscow, 12 pp		"Studies of Polycondensation Reactions," V. Korshak, S. Raffikov, V. Zamiatina, Inst Org Chem, Acad Sci USSR, Moscow, 18 pp	
"Acta Physicochimica URSS" Vol XXI, No 4		"Acta Physicochimica URSS" Vol XXI, No 4	
Measurements of H atom in hydrogen flames burning in $4H_2 + O_2$ , $2H_2 + O_2$ , $H_2 + O_2$ , $H_2 + 2O_2$ , $H_2 + 4O_2$ mix- tures by thermoelectric probe method. Results agree quantitatively with assumed mechanism of hydrogen combustion. Received 3 Dec 1945.		Studies of polycondensation reaction between hexa- methylenediamine and adipic acid, and of diamines with dicarboxylic acids. Acidolysis and aminolysis reactions consisting in destruction of polyamides on heating with acids or amines are described. Re- ceived 18 Oct 1945.	
FDB	52T1	FDB	52T2
USSR/Chemistry - Stability Chemistry - Carbonyls	Jul/Aug 1946	USSR/Chemistry - Silicic acid, Gela- tion of Chemistry - Electrochemistry	Jul/Aug 1946
"Chemical Stability of Metalcarbonyls and Carbonyl- halides. I," B. Ormont, Lab Solid and Hard Compounds, Karpov Inst Phys Chem, Moscow, 8 pp		"The Electrochemical Properties of Highly Purified Ferrialuminosilica Gels and Sols," M. Shishniash- vili, Chem Inst, Acad Sci Georgian SSR, Tbilisi; V. Kargin, Karpov Inst Phys Chem, Moscow, 18 pp	
"Acta Physicochimica URSS" Vol XXI, No 4		"Acta Physicochimica URSS" Vol XXI, No 4	
Introduces concept of critical heats of formation, as one criterion of thermodynamic stability. Average experimental values of critical bond energies are obtained for carbonylhalides undergoing decomposition, and Hieber's assumption of the instability of all car- bonylhalides at 298 K is opened to question. Received 27 Feb 1945.		Study of highly purified mixed gels of silicic acid and sesquioxides. There are no electric charges on gel particles, indicating that gels contain no ion- izable groups. Concludes that pure aluminosilica gels are not electrolytes. Received 4 May 1945.	
FDB	52T3	FDB	52T4
USSR/Chemistry - Catalysis Chemistry - Kinetics	Jul/Aug 1946	USSR/Chemistry - Isopropyl Alcohol Chemistry - Decomposition	Jul/Aug 1946
"The Kinetics of Exothermal Catalytic Reactions in a Current. I, Theory of Reaction on a Long Contact Layer," O. Todes, Lab Catalysis, Inst Colloid and Electrochem, Acad Sci USSR, Moscow, 16 pp		"The Distribution of Active Centres on Mixed Cata- lysts. I, Decomposition of Isopropyl Alcohol on $Al_2O_3 \cdot ZnO$ ," A. Balandin, V. Wasserberg, Inst Org Chem, Acad Sci USSR, Moscow, 10 pp	
"Acta Physicochimica URSS" Vol XXI, No 4		"Acta Physicochimica URSS" Vol XXI, No 4	
Theoretical analysis of kinetics of exothermal cata- lytic reactions in a current shows that in sufficient- ly long reaction vessel two types of thermal regimes are possible; analogous to the "quiet" (in the kinetic region), and the "combustion" (a narrow zone at the entrance to the reactor), in homogeneous reactions. Received 15 Sep 1945.		Study of kinetics of decomposition of isopropyl alcohol in monomolecular adsorbed layer of a mixed $Al_2O_3 \cdot ZnO$ Catalyst at various degrees of covering of catalyst surface and temperatures to determine the distribution of catalytically active centres on a mixed catalyst. Received 13 Aug 1945.	
FDB	52T5	FDB	52T6
USSR/Chemistry - Hydrocarbons, Aromatic Chemistry - Resonance, Energies	Jul/Aug 1946	USSR/Chemistry - Nitrogen Chemistry - Oxidation	Jul/Aug 1946
"Resonance Energies of Polynuclear Aromatic Hydrocar- bons," Ya. Syrkin, M. Diatkina, Karpov Inst Phys Chem, Moscow, 37 pp		"The Oxidation of Nitrogen in Combustion and Explo- sions," Ya. Zeldovich, Inst Chem Phys, Acad Sci USSR, Moscow, 52 pp	
"Acta Physicochimica URSS" Vol XXI, No 4		"Acta Physicochimica URSS" Vol XXI, No 4	
Computation of resonance energies of 70 hydrocarbons and free radicals by method of molecular orbitals, which include line hydrocarbons and hydrocarbons of angular structure, hydrocarbons with fused rings, hydrocarbons with conjugated phenyl rings and double bonds, noncoplanar forms, isomer forms, addition reac- tions, methylene cyclanes, five- and three-membered rings, and free radicals. Received 5 Nov 1945.		Study of various factors influencing yield of nitric oxide in combustions and explosions, and various constants of the reaction. Received 5 Sep 1945.	
FDB	52T7	FDB	52T8

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USSR/Chemistry - Vanadium Nitride Chemistry - X-Ray Study	Jul/Aug 1946	USSR/Chemistry - Aluminosilicates Chemistry - Oxygen	Oct 1947
<p>"An X-Ray Examination of Vanadium Nitride. III. The System VN--VO," V. Epelbaum, A. Brager, X-Ray Lab and Lab of Solid Compounds, Karpov Inst Phys Chem, Moscow, 3 pp</p> <p>"Acta Physicochimica URSS" Vol XXI, No 4</p> <p>Shows unit cube edge of solid solutions VN--VO changes linearly with the concentration of the compounds from the unit cube edge of pure vanadium nitride (4.129 Å) down to that of pure vanadium oxide (~4.08 Å). Received 15 Aug 1945.</p>		<p>"Isotope Composition of Oxygen of Aluminosilicate of Rock," A. P. Vinogradov, Ye. I. Dontsova, Inst Geochem and Analytical Chem imeni V. I. Vernadskiy, Acad Sci USSR, 2 pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Concludes on the basis of experiments conducted: 1) in formation of hard silicate covering of the Earth and water (or steam, if from the point of view of molten differentiation of the covering of the Earth), there is no division of isotopes of oxygen (between aluminosilicate and water); 2) the few</p>	
FDB	52T9	FDB	52T10
USSR/Chemistry - Organic Compounds Chemistry - Crystals	Oct 1947	USSR/Chemistry - Aluminosilicates (Contd)	Oct 1947
<p>"Principles of Organic Crystallochemistry," A. I. Kitaygorodskiy, Inst Org Chem, Acad Sci USSR, 2 pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Principle of solid packing limits symmetry of distribution of molecules in crystal. Formulates law of crystallochemistry: crystals of organic compounds can be looked upon as a system with a very solid form of packed layers. Molecules of the layer have a coordination number of 6 and are so distributed that there is no polarity to a perpendicular layer. Submitted by Academician A. N. Nesmeyanov, 21 Mar 1947.</p>		<p>observed changes in the isotope composition of oxygen in comparison with the isotope composition of oxygen of aluminosilicates and water (for CO<sub>2</sub>, carbonates, some minerals, oxygen of the air) are apparently only characteristic for the processes, going into the upper covering of the Earth--the biosphere.</p>	
FDB	52T11	FDB	52T10
USSR/Chemistry - Magnesium Alloys Chemistry - Disintegration	Oct 1947	USSR/Chemistry - Soaps Chemistry - Alkali-Earths	Oct 1947
<p>"Corrosive Disintegration of Electron AZM in Various Media," Ye. M. Zaretskiy, All-Union Sci Res Inst Aviation Materials, 3 pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Studies tendency toward corrosive disintegration of rolled magnesium alloy AZM (6% Al, 1% Zn, 0.5% Mn) in solution of sulphuric acid, sodium carbonate, and mixtures of sodium chloride and potassium bichromate, using forms 160 x 15 x 1 mm cut from a sheet of the metal. Submitted by P. A. Rebinder, 24 Mar 1947.</p>		<p>"Phase Crossings in Alkali-Earth Soaps," G. V. Vinogradov, Inst Genl and Inorg Chem imeni N. S. Kurnakov, Acad Sci USSR; Mil Acad Armored Tank and Mechanized Forces imeni I. V. Stalin, 3 pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Alkali-earth soaps of high aliphatic acids are important as agents to thicken mineral oils in the production of grease. Study of phase crossings in alkali-earth soaps was made with stearate calcium (CaSt<sub>2</sub>) and barium (BaSt<sub>2</sub>), and SrSt<sub>2</sub>. Submitted by Academician I. I. Chernyayev, 14 Mar 1947.</p>	
FDB	52T12	FDB	52T13
USSR/Chemistry - 1,3-Butadiene Chemistry - Polymers	Oct 1947	USSR/Chemistry - Boric Acid Chemistry - Esters	Oct 1947
<p>"Rubbery Cyclopolymer of Bivinyll," Ya. M. Slobodin, F. Yu. Rachinskiy, Mil Med Acad imeni S. M. Kirov, 2 pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Gives data on experiments in polymerization of bivinyll, as a result of which, properly constructed polymers were produced. Below 150° the rubbery cyclopolymer were accompanied by various amounts of aliphatic forms. 150° and higher, as a result of formation on the catalyzer of a large amount of chains and their frequent breaking away, polymerization is limited by formation of polymer forms of comparatively low molecular weight. Submitted by Academician A.A. Bažandin, 14 Mar 1947.</p>		<p>"Parachors of Substituted Esters of Boric Acid," B. A. Arbuzov, V. S. Vinogradova, Sci Res Inst imeni A. M. Butlerov, Kazan State U imeni V. I. Lenin, 4 pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Concludes from data that parachors show the structure of esters of boric acid, which is in complete agreement with data of electro organic research. Favorable concurrence found between calculated and actual significance of parachors.</p>	
FDB	52T14	FDB	52T15

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USSR/Electricity Rotors Coils-Winding  "New Methods in Rewinding Rotors with Aluminum Coils," V. I. Zil'berberg, Engr; A. O. Schmidt, Gor'kiy Automobile Works imeni V. M. Molotov, 1 p  "Prom Energetika" No 12  Briefly describes repairs made on housing of short-circuit rotor at one of the plants GAW imeni V. M. Molotov. Although a rotor with an aluminum housing usually is considered very durable, and repairs on this type of assembly are considered uneconomical, at times they are necessary in spite of high cost involved. FDB 52T16	USSR/Electricity Motors, Electric Electricity - Textbooks  "Handbook for Plant Engineers" 1 p  "Prom Energetika" No 12  List No 20 of a series. Gives catalogue numbers, operation and performance of some Soviet three phase asynchronous motors with a short-circuit rotor. Power capacity 100 kv, 500 watts.  FDB 52T17	
USSR/Electricity Power Plants Electricity - Textbooks  "Basic Rules for the Engineers of Industry" 2 pp  "Prom Energetika" No 12  Author praises so-called "Rules for Technological Operation of Power Stations and Circuits" drawn up some 7½ years ago and still valuable as guide for efficient operation of power circuits. Attributes value to deep understanding of Soviet State for individual workman and technician.  FDB 52T18	USSR/Electricity Switches, Thermal Circuit Breakers  "The Stability of Bimetallic Sheathing During Heating," D. Yu. Panov, Moscow, 8 pp  "Priklad Matemat i Mekhanik" Vol XI, No 6  Discusses simple construction and operation of the Klixon thermal switch which works on the principle of uneven expansion of different types of metal leaves. Tests conducted with electric current running through the leaves of such a thermal switch reveal that upon reaching a certain temperature, the leaves separate and act as a cutoff switch. Submitted 23 Oct 1947. FDB 52T19	
USSR/Electronics Waves, Electromagnetic Waves Propagation  "Propagation of Electromagnetic Waves Along Lines," P. I. Kuznetsov, Moscow, 6 pp  "Priklad Matemat i Mekhanik" Vol XI, No 6  Several scientists have studied the problem of the propagation of electromagnetic waves along lines with limited and unlimited length. In most of these works, authors used a method of integration by which they arrived at approximate solutions. Author utilizes Lommer's function, derived through two imaginary argu-  FDB 52T20	USSR/Electronics I Sparks, Electric Conduits, Electric  "The Channel of the Initial Spark Discharge," V. S. Komel'kov, Energetics Inst imeni G. M. Krzhizhanovskiy, Acad Sci USSR, 4 pp  "Dok Akad Nauk SSSR" Vol LVIII, No 1  Treats the measurement of parameters in initial arc-over of long sparks. Creation of theory of arc-over across long intervals (long spark) meets considerable difficulty because of absence of experimental data on the very important parameter of the initial  FDB 52T21	
USSR/Electronics (Contd)  Nov/Dec 1947  ments, to solve the case of a closed circuit. Utilizes Lommer's and Bessel's functions in particular. Submitted 29 Apr 1947.  FDB 52T20	USSR/Electronics I (Contd)  Oct 1947  arc channel. The density of the current and the voltage gradients, both in the initial arc channel and in the ionization zone, are of special interest for the theory. Submitted by G. M. Krzhizhanovskiy, 30 Apr 1947.  FDB 52T21	

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USSR/Engineering Dynamics Mathematics, Applied  "The Center of the Aggregate Dynamical System," M. Krasnosel'skiy, S. Kreyn, 3 pp  "Dok Akad Nauk SSSR" Vol LVIII, No 1  Demonstrates a theorem, analogous to that of Birkhof, on probable nature of the center of the dynamic sys- tem, which holds for all dynamic systems in the sense of Nemytskiy. Submitted by Academician A. N. Kolmo- gorov, 6 Apr 1947.	Oct 1947	USSR/Engineering Fuel Conservation  "Totals of Fuel Used in Different Enterprises of the Ministry of Light Industry for the First Six Months of 1947, (According to Material of GosTop- Nadzora GlavSnaBÜglya in the Soviet of Ministers of the USSR)" 4½ pp  "Za Ekonomiya Topliva" No 12  Gives summary of total expenditure of fuel in en- terprises of Ministry of Light Industries, with more detailed data for 14 specific organizations of this Ministry.	Dec 1947
FDB	52T22	IC	52T23
USSR/Engineering Fuel Consumption Bibliography  "New Literature on the Economy of Fuel" 1 p  "Za Ekonomiya Topliva" No 12  List of 19 recently published books with brief abstracts of their contents.	Dec 1947	USSR/Engineering Boilers - Tests  "Test of the Use of Small Capacity Steam Boilers of the VVD System," F. P. Yanutsevich, Engr, 5 pp  "Za Ekonomiya Topliva" No 12  Presents basic technico-economic indexes of the VVD-80/13 and VVD-140/13 system boilers in tabular form. Describes use of VVD boilers in food indus- try over two years in order to acquaint large num- ber of thermal engineers with their particular construction, technico-economic performance, and possibilities for future use.	Dec 1947
IC	52T24	IC	52T25
USSR/Engineering Ejectors Sprayers  "The Choice of Working Factors in Discharge Apparatus (Blow-outs, Sprayers, Ejectors, etc.)," A. A. Voz- nesenskiy, Candidate Tech Sci, 2 pp  "Za Ekonomiya Topliva" No 12  Since superheated steam gives the greatest discharge power, unless prevented by technological conditions, it must be used in all discharge energy apparatus. Economic use of superheated steam is more desirable than condensed air. Wide use of steam instead of air	Dec 1947	USSR/Engineering Turbines, Steam Energy - Dissipation  "Heat Losses Resulting From Air in Condensers of Steam Turbines," L. D. Berman, Dr Tech Sci, 5 pp  "Za Ekonomiya Topliva" No 12  From the analysis of causes of heat losses from air in condensers, concludes that an increase of pressure in the condenser, when the amount of air flowing into it is increased, depends primarily upon the characteristics of the ejector; the greater the increase, the stronger will be this character- istic and the less will be the steam resistance of the condenser.	Dec 1947
IC	52T26	IC	52T27
USSR/Engineering (Contd)  cutb the load of electrical stations. Exception may be made only for regions with cheap hydroelectric power.	Dec 1947	USSR/Engineering Turbines, Steam - Failures Packings  "Repairs to the Graphite-Carbon Packing for Steam Turbines," M. G. Seglin, KievPromEnergMontazh, 1 p  "Prom Energetika" No 12  This packing is one of the most unreliable parts of a steam turbine. It breaks down for any number of reasons and therefore requires constant attention. Author briefly describes basic repairs occasionally required. When repairs are made, they must be made on the whole packing and all new material must be used.	Dec 1947
IC	52T26	FDB	52T28



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USSR/Engineering Furnaces, Electric Efficiency, Industrial  "The Possibility of Substituting Fuel Furnaces for Industrial Electrical Furnaces," Prof L. I. Aronov, 5 pp  "Prom Energetika" No 12  Author lists several points to aid the director of an industry to decide whether or not it would be favorable for the plant to change from electric to fuel furnaces: for example, whether or not cost of electro-thermal processing is prohibitive or lower than cost of fuel-powered thermal processing. Some regions FDB 52T29	Dec 1947	USSR/Engineering Machines, Precision Mathematics - Calculators  "Works of the Seminar on Precision Mechanics and Calculating Machine Techniques, Conducted by Academician N. G. Bruyevich," O. N. Korsakov, 3 pp  "Izv Akad Nauk SSSR, Otd Tekh Nauk" No 11  Report of seminar conducted in Precision Mechanics Department, Institute of Machine Sciences, Academy of Sciences, USSR. Questions concerned with theory, construction, precision, rationality of application and problems of development of calculating machines are discussed. Various methods of solving mathematical problems given. FDB 52T30	Nov 1947
USSR/Engineering (Contd)  have power balance so favorable that this change is unnecessary.  FDB 52T29	Dec 1947	USSR/Geology Stratification  "Stratigraphy of Miocene Deposits of the Western Siberian Plain," V. A. Nikolaev, Western Siberian Br, Acad Sci USSR, 2½ pp  "Dok Akad Nauk SSSR" Vol LVIII, No 1  Maintains there is no doubt about continental origin of miocene deposits. Sandy-clay sediments of miocene deposits were spread on bottom of shallow broad lakes. Lakes had constant connection with rivers that deposited enormous amount of loose material. The rich growth in the lakes served as source for FDB 52T31	Oct 1947
USSR/Geology Stratification  "The Age of the Metamorphic Stratum of Timan," E. A. Kal'berg, A. G. Vologdin, 2½ pp  "Dok Akad Nauk SSSR" Vol LVIII, No 1  Lithologic properties and paleontologic characterization of metamorphic stratum of Timan compared with cross section of same formation of Polar Urals, where Pelingichey and Shchekur'in layers of K. A. L'vov apparently correspond to Dzhezhim and Bystrin layers of the Timan.  FDB 52T32	Oct 1947	USSR/Geology (Contd)  formation of many layers of lignite. Submitted by Academician V. A. Obruchey, 29 Mar 1947.  FDB 52T31	Oct 1947
USSR/Geology Geological Prospecting  "Arkosic Sandstone in the Headwaters of the Alzan' and Stori Rivers," V. N. Krestnikov, 2½ pp  "Dok Akad Nauk SSSR" Vol LVIII, No 1  Discussion of formation of sandstone in this area. Two cuts show: 1) muscovite 3%, biotite 1%, quartz 27%, microcline 43%, plagioclase 20%, calcite 6%; 2) muscovite 5%, quartz 51%, microcline 43%, plagioclase 8%. Submitted by Academician D. S. Belyankin, 22 Mar 1947.  FDB 52T33	Oct 1947	USSR/Geology Geological Prospecting  "Possible Mineralogical Correlatives of the Sakmara-Artin Deposits in the Ishimbaev Oil Region," S. G. Sarkisyan, Inst Combustible Minerals, Acad Sci USSR, 2 pp  "Dok Akad Nauk SSSR" Vol LVIII, No 1  Five propositions are given on mineralogical characteristics of these deposits which have been determined by microscopic research. Research was insufficient to state definitely the characteristics. Submitted by Academician S. I. Mironov, 19 Mar 1947.  FDB 52T34	Sep 1947

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USSR/Geology - Development Petroleum	Oct 1947	USSR/Geology Geological Prospecting	Oct 1947
<p>"Advances of Soviet Geology for Thirty Years" 4½ pp</p> <p>"Zapiski Vserossiyskogo Mineralogo Obshchest" Series 2, Part LXXVI No 3</p> <p>Discusses briefly advances attained in Soviet Union by geologists during 30 years of Soviet rule. Names some geologists who have made commendable progress. At present much work is being done in a new field, petrochemistry, started by noted Soviet scientist, A. N. Zavaritskiy.</p>		<p>"Discovery of Cinnabar in the Ores of the Sibayev Chalcedony Deposits," S. A. Vakhromeev, 1 p</p> <p>"Zapiski Vserossiyskogo Mineralogo Obshchest" Series 2, Part LXXVI No 3</p> <p>Brief record of data obtained by Scientific and Research Party, NIS, Sverdlovsk Mining Institute imeni V. V. Vakhrushev, led by the author to conduct studies of the Sibayev ores. Expedition, authorized by UralTsvetMedRazvedka, took place in 1945-46. Particular attention devoted to location of</p>	
FDB	52T35	FDB	52T36
USSR/Geology Geological Prospecting	Oct 1947	USSR/Geology (Contd)	Oct 1947
<p>"Phosphoscorodite From the Blyav Deposits (Southern Urals)," T. N. Shadlun, Yu. S. Nesterova, 3 pp</p> <p>"Zapiski Vserossiyskogo Mineralogo Obshchest" Series 2, Part LXXVI No 3</p> <p>A white powder-like, finely crystallized mineral discovered during study of oxidized deposits of Blyav chalcedony. This mineral found to contain heavy concentrate of scorodite. Appears to be a compound of scorodite and sternbergite. Author discusses physical properties of this mineral and describes its chemical</p>		<p>new mercury deposits and ores. Describes tests and assays carried out on various ores, including cinnabar. Discovery of cinnabar was first such discovery of this mineral in chalcedony deposits of Urals.</p>	
FDB	52T37	FDB	52T36
USSR/Geology (Contd)	Oct 1947	USSR/Hydrology Oceanology Currents, Ocean	Oct 1947
<p>composition. Gives tabular results of spectrum studies of various types of scorodite.</p>		<p>"New Indicators of the Significance of the Irregularity of the Wind as One of the Reasons for Circulation in the Sea," V. B. Shtokman, Inst Oceanology Acad Sci USSR, 4 pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Irregularities in the wind are proposed as an explanation for the observed discontinuous character of occurrence of equatorial counter currents on the surface of the ocean, when counter currents exist</p>	
FDB	52T37	FDB	52T38
USSR/Mathematics - Mensuration Mathematics - Point Sets	Oct 1947	USSR/Hydrology (Contd)	Oct 1947
<p>"On the Classification of Measurable 'Pulsations'," V. Rokhlin, 4 pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Gives classification of measures and homomorphisms of Lebesgue spaces. Submitted by Academician A. N. Kolmogorov, 24 Mar 1947.</p>		<p>in the form of separate, comparatively short length, and are not spread as a continuous strip of large zonal expanse. Submitted by Academician P. P. Shirshov, 28 Apr 1947.</p>	
FDB	52T39	FDB	52T38

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USSR/Mathematics - Equations, Differential (Partial) Oct 1947	USSR/Mathematics - Operational Theory Oct 1947 Mathematics - Numbers, Properties of	
"A. Haar's Method in the Question Regarding the Unique Solution of Cauchy's Problem for Systems of Differential Equations with Partial Derivatives," A. Myshkis, 4 pp	"The Theorem of Isometric Operators With Equal Imperfect Numbers," M. C. Livshits, 3 pp	
"Dok Akad Nauk SSSR" Vol LVIII, No 1	"Dok Akad Nauk SSSR" Vol LVIII, No 1	
Mathematical treatment of one of the conclusions resulting from Haar's lemma on subject problem. Submitted by Academician I. G. Petrovskiy, 8 Jul 1947	Generalizes the case for operators with indexes of imperfection (1,1) into the case for operators with indexes of imperfection (m,m) ( $m < \infty$ ). Submitted by Academician A. N. Kolmogorov, 1 Apr 1947.	
FDB 52T40	FDB 52T41	
USSR/Mathematics - Equations, Differential (Partial) Oct 1947 Mathematics - Equations of Motion	USSR/Mathematics - Functions, Approximation of Oct 1947 Mathematics - Number Systems	
"The General Representation of the Solution of the Wave Equation," Ya. A. Mindlin, Inst Mech, Acad Sci USSR, 4 pp	"The Best Approximation, for a Certain Range, of One Class of Functions by Means of Any Group of Polynomials," S. Nikol'skiy, 4 pp	
"Dok Akad Nauk SSSR" Vol LVIII, No 1	"Dok Akad Nauk SSSR" Vol LVIII, No 1	
Gives a general solution of the partial differential equation $\sum \partial^2 u / \partial x_n^2 = a^{-2} \partial^2 u / \partial t^2$ . Submitted by Academician S. L. Sobolev, 23 Mar 1947.	The expression, $K_1 A_1(x)$ , involving the given polynomials, $A_n(x)$ , which approximates most closely the function, $f(x)$ , in question is found by minimizing the integral of their differences thus: $\min \int f(x) - \sum K_n A_n(x) / dx$ , where $K_1$ are to be found. Submitted by Academician S. N. Bernshteyn, 9 Apr 1947.	FDB 52T43
FDB 52T42	FDB 52T44	
USSR/Mathematics - Equations, Integral Oct 1947 Mathematics - Operational Theory	USSR/Mathematics - Calculators Nov 1947 Mathematics - Equations, Differential	
"Calculation of the Operator Stages of Liebmann and Gershgorin and Their Application to the Mechanical Integration of Equations," S. S. Kovner, D. K. Zhak, 4 pp	"The Precision of Mechanisms in Which the Position of the Links is Described by Differential Equations," M. L. Bykhovskiy, 28 pp	
"Dok Akad Nauk SSSR" Vol LVIII, No 1	"Izv Akad Nauk SSSR, Otd Tekh Nauk" No 11	
Describes method of approximate integration with aid of operator stages, which is claimed to create new basis for practical solution of series of basic problems of mathematical physics. Submitted by Academician A. N. Kolmogorov, 4 Apr 1947.	Gives a mechanical determination of the precision of work of machines which have already been constructed and makes recommendations for increasing this precision (for example, exclusion of systematic errors by a correcting equation). Allows	
FDB 52T44	FDB 52T45	
USSR/Mathematics - Calculators Nov 1947 Mathematics - Equations, Differential	USSR/Mathematics - Calculators (Contd) Nov 1947	
"Differentiation in Calculating Machines," I. M. Rapoport, 22 pp	designer to represent the permissible variation in a new machine in a more rational form. Submitted by Academician N. G. Bruyevich.	
"Izv Akad Nauk SSSR, Otd Tekh Nauk" No 11		
Treats the problem of the determination in calculating devices of the derivatives $\frac{dx}{dt}, \frac{d^2x}{dt^2}, \dots, \frac{d^nx}{dt^n}$ in those conditions where the differentiated function of time $x(t)$ satisfies the given differential equation: $F\left(\frac{d^{n+1}x}{dt^{n+1}}, \frac{d^nx}{dt^n}, \dots, \frac{dx}{dt}, x\right) = 0$ . Submitted by Academician N. G. Bruyevich.		
FDB 52T46	FDB 52T45	

RESTRICTED	FDB Periodical Abstracts Scientific No 52	RESTRICTED	
USSR/Medicine - Marine Organisms Medicine - Light, Effects	Oct 1947	USSR/Medicine - Transplantation Medicine - Liver	Oct 1947
<p>"Some Regularities of Ontogenetic Adaptation; the Dependence of a Photoreaction in Daphnia Magna Upon Adaptation to Temperature," M. Ye. Lobashev, P. G. Ivanova, Leningrad State U, 4 pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Presents results of experiments to explain in what measure a preliminary adaptation of Daphnia to different temperatures (3-8° and 27-32°C) can change their reaction to light when they are transferred to normal temperature conditions. Submitted by Academician I. I. Shmal'gauzen, 27 Feb 1947.</p> <p>FDB 52T47</p>		<p>"The Change of the Liver of Grass Frogs in Auto-transplantation," N. Grigor'yev, 3½ pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Presents results of an experiment in which a section of liver was excised and transplanted in the abdominal lymphatic sack. At intervals of from several hours up to 132 days after the transplantation, it was subjected to microscopic study. Submitted by Academician I. I. Shmal'gauzen, 20 Mar 1947.</p> <p>FDB 52T48</p>	
USSR/Medicine - Biology Medicine - Arctic Studies	Oct 1947	USSR/Medicine - Botany Medicine - Growth	Oct 1947
<p>"Influence of the Ice Covering on the Morphology and Population of the Littoral Zone," V. V. Kuznetsov, Zool Inst, Acad Sci USSR, 3½ pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Reports observations made by author in 1946 on Kandalaksha State Game Preserve at Kandalaksha Bay, on White Sea, and at the Murmansk Biological Station of the Academy of Sciences, USSR, in Dal'ne-Zelenets bay region of Barents Sea. Submitted by Ye. N. Pavlovskiy, 18 Mar 1947.</p> <p>FDB 52T49</p>		<p>"The Influence of Heteroauxin on Implanting and the Frost Resistance of Kok-saghyz Grafts," P. S. Belikov, Sci Res Inst of Rubber Plants, 2½ pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Concludes from experiment that heteroauxin in kok-saghyz grafts lowers frost resistance of tissue growths. This is a particular action, not merely growth promotion. Present level of knowledge does not permit sufficiently clear presentation of the mechanism of the action of growth substances. It</p> <p>FDB 52T50</p>	
USSR/Medicine - Microorganisms Medicine - Nicotine	Oct 1947	USSR/Medicine - Botany (Contd)	Oct 1947
<p>"The Details of an Activating Action of Nicotinic Acid on a Microbe," M. N. Meyssel', Inst Microbiol, Acad Sci USSR, 3½ pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Cultivation of Zygosaccharomyces marxianus made on artificial sugar-mineral medium which was supplemented with biotin, vitamin B<sub>1</sub>, and pantothenic acid. Morphological study of culture on such a medium showed that influence of nicotinic acid was not limited by the activation of vegetative reproduction, and also delayed the sexual process. Submitted by Academician B. L. Isachenko, 18 Mar 1947.</p> <p>FDB 52T51</p>		<p>can be said only that together with a stimulation of the root formation there is a lowering of frost resistance under the influence of heteroauxin. Submitted by Academician N. A. Maksimov, 28 Apr 1947.</p> <p>FDB 52T50</p>	
USSR/Medicine - Botany Medicine - Life, Duration	Oct 1947	USSR/Medicine - Grain Medicine - Hybridity	Oct 1947
<p>"The Length of Life of Agasyllis Latifolia (M. B.) Boiss. and Libanotis Montana All.," T. A. Rabotnov, Botanical Inst imeni V. L. Komarov, Acad Sci USSR, Leningrad, 4 pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>Gives result of experiment: Having determined the age of the generative specimens of these two plants, their longevity and virginity (the period from the sprouting of the seed to blooming) can be explained. Submitted by Academician V. N. Sukachev, 10 Apr 1947.</p> <p>FDB 52T52</p>		<p>"Rationalization of the Method and Technique of Interhybridization of Grains," P. I. Skorokhodov, Turkmen State Selection Station, Bayram-Ali, 2½ pp</p> <p>"Dok Akad Nauk SSSR" Vol LVIII, No 1</p> <p>The Turkmen selection station first began hybridization on a large scale in 1946. Experimenters faced a number of difficulties in the form of unsolved problems of the biology of blooming under specific conditions in the subtropical climate of Turkmeniya. Reports a method of pollination, called limited free pollination, developed under these conditions. Submitted by N. A. Maksimov, 7 Apr 1947.</p> <p>FDB 52T53</p>	

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USSR/Medicine - Fish Medicine - Myocardium Oct 1947  "Study of the Comparative Histology of the Myocardium of Lower Vertebrates," N. N. Kochetov, Mil Med Acad imeni S. M. Kirov, 2½ pp  "Dok Akad Nauk SSSR" Vol LVIII, No 1  Comparative histology of the myocardial walls of cyclostomata, amphibians, and fish. Submitted by Academician I. I. Shmal'gauzen, 20 Mar 1947.  FDB 52T54	USSR/Medicine - Plants Nuclear Physics - Isotopes Oct 1947  "The Distribution of Phosphorous in Organs of Plants in Experiments with Radioactive Isotopes P <sup>32</sup> ," V. M. Klechkovskiy, D. D. Ivananko, V. B. Bagaev, V. V. Rachinskiy, Moscow Agr Acad imeni K. A. Timiryazev, 3 pp  "Dok Akad Nauk SSSR" Vol LVIII, No 1  In general, results of experiments show that the character of distribution of radioactive phosphorous in the organs of a plant depends upon the condition of the plant and is connected with its diet. In the case of a moderate phosphate diet, when the  FDB 52T55	
USSR/Medicine - Botany Medicine - Rubber Oct 1947  "The Role of Calcium, Potassium and Sodium in the Formation of Rubber in the Roots of Kok-saghyz," A. F. Kalinkevich, 3 pp  "Dok Akad Nauk SSSR" Vol LVIII, No 1  Experiments indicate that calcium, in comparison with monovalent cations (potassium and sodium), shows a positive influence on the process of rubber accumulation. The different roles of calcium, potassium, and sodium, in the process of rubber accumulation, influence carbohydrate and nitrogen exchange in the plant. Submitted by Academician D. N. Pryanishnikov, 17 May 1947. FDB 52T56	USSR/Medicine - Plants (Contd) Oct 1947  plant is on the border of evident starvation for phosphorous, the correspondence between the general amount of phosphorous and the contents of radioactive phosphorous introduced into the plant differs sharply in various organs. Submitted by Academician D. N. Pryanishnikov, 2 Apr 1947.  FDB 52T55	
USSR/Medicine - Plants Medicine - Carotene Oct 1947  "Changes in the Content of Carotene in Plants," S. I. Lebedev, Lab Physiol and Biochem Plants, Botanical Garden, Acad Sci Ukrainian SSR, Kiev, 4 pp  "Dok Akad Nauk SSSR" Vol LVIII, No 1  In the process of ontogenesis the content of carotene in annual plants is constantly subject to change. Amount in the plant reaches a maximum in the period of budding and blooming, decreasing gradually with the ripening of the fruit and dying of the plant. In diclinous plants, as a rule, the female contains  FDB 52T57	USSR/Medicine - Microorganisms Chemistry - Oxidation Oct 1947  "Oxidation of Naphthenic Acid and Naphthenic Hydrocarbons by Microorganisms," L. Osnitskaya, Inst Microbiol, Acad Sci USSR, 4 pp  "Dok Akad Nauk SSSR" Vol LVIII, No 1  Makes hypothesis, from the results of the experiment, that the process of destruction of naphthenic acids proceeds energetically with a rapid oxidation of the intermediate products up to carbon dioxide and water. Submitted by Academician B. L. Isachenko, 18 Mar 1947.  FDB 52T58	
USSR/Medicine - Plants (Contd) Oct 1947  more carotene than the male. Temperature and light conditions show a strong influence on the varying content of carotene in plants. Submitted by Academician N. A. Maksimov, 14 Apr 1947.  FDB 52T57	USSR/Medicine - Insects Medicine - Chromosomes Oct 1947  "Acetylation of Gene Albumins and Mutation," I. A. Rapoport, Inst Cytology, Histology, and Embryology, Acad Sci USSR, 4 pp  "Dok Akad Nauk SSSR" Vol LVIII, No 1  Presents results of experiments conducted with a line of Drosophila melanogaster. Determination of the destruction of mutations in the sex chromosome was carried out genetically, according to a method described in a previous article. Development of insects in a temperature of 25.5 - 26°C and action  FDB 52T59	

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FDB Periodical Abstracts Scientific No 52

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USSR/Medicine - Flies Medicine - Taxonomy  "Two New Species of the Genus <i>Dasyphora</i> Rob.-Desv. (Dipteram, Muscidae) of Middle Asia," L. S. Zimin, Inst Zool and Parasitology, Tadjik Br, Acad Sci USSR, Stalinabad, 5 pp  "Entomologicheskoye Obozreniye" Vol XXVIII, No 3/4  Describes taxonomically two new species, <i>Dasyphora asiatica</i> and <i>Dasyphora gussakovskiy</i> , that belong to the group of synanthous forms, widely distributed in Middle Asia. Former inhabits plains; latter, mountainous country. Adult flies are especially numerous in spring, in the early summer, and in the late autumn, often entering houses or attacking cattle. IC 52T60	USSR/Medicine - Insects (Contd) Oct 1947  of ketene were studied in four extensive experiments which were distinguished by stages of development and other conditions. Presented by Academician L. A. Orbeli, 17 Mar 1947.
USSR/Medicine - Flies Medicine - Environment  "Draw-wells as Biotope in the Inhabited Iranian Desert," Ye. N. Pavlovskiy, Academician, 10 pp  "Entomologicheskoye Obozreniye" Vol XXVIII, No 3/4  Draw-wells of underground water canals in the zone of cultivated desert is a biotope created by man. About 20 species of insects, mostly Diptera, were taken from 12 draw-wells in March and June.  IC 52T61	USSR/Medicine - Flies Medicine - Nutrition Mar 1945  "Nutritional Value of Proteins in the Growth of the Blow-Fly Larvae," I. V. Kozhantshikov, Inst Zool, Acad Sci USSR, Leningrad, 7 pp  "Entomologicheskoye Obozreniye" Vol XXVIII, No 3/4  Proteins of different vertebrata and those of some insect species were studied under constant thermal conditions at an optimum temperature (20°). Proteins of birds inhibit growth of larvae; proteins of amphibians and fishes inhibit growth and increase larval mortality.  IC 52T62
USSR/Medicine - Flies Medicine - Taxonomy Mar 1945  "A New <i>Leptoconops</i> Skuse (Diptera, Heleidae) of the USSR," A. V. Gutsevich, Chair Genl Biol and Parasitology, Kirov Mil Med Acad, Leningrad, 7 pp  "Entomologicheskoye Obozreniye" Vol XXVIII, No 3/4  Describes taxonomically the new species, <i>Leptoconops (Holoconops) borealis</i> , found in the Sura district, the forest zone of the European USSR.  IC 52T63	USSR/Medicine - Mosquitoes Medicine - Geography Mar 1945  " <i>Culex Hayashii</i> Jam. (Diptera, Culicidae) in Far Eastern USSR," P. A. Petrishcheva, 3 pp  "Entomologicheskoye Obozreniye" Vol XXVIII, No 3/4  Very rare species of Culicidae first found in USSR in the forest zone of the Far East in 1939-1940. Larvae inhabit shallow, temporary waters which are thoroughly warmed by the sun. Adults survive in laboratory conditions and propagate by feeding on sugar solution and an emulsion of white mice brain.  IC 52T64
USSR/Medicine - Insects Medicine - Geography Mar 1945  "Geographical Distribution of the Subfamily Catantopinae (Saltatoria Orthoptera sens. str. Acridodea)," Lev Mishchenko, Inst Zool, Acad Sci USSR, Leningrad, 5 pp  "Entomologicheskoye Obozreniye" Vol XXVIII, No 3/4  Gives geographical distribution of the subfamily Catantopinae according to zoogeographical regions.  IC 52T65	USSR/Medicine - Insects Medicine - Taxonomy Mar 1945  "On Two Species of the Family Phasliidae (Diptera) Parasitic on <i>Eurygaster Griceps</i> Put. (Hemiptera)," I. A. Rubtsov, Inst Zool, Acad Sci USSR, Leningrad, 16 pp  "Entomologicheskoye Obozreniye" Vol XXVIII, No 3/4  Gives morphological description and new data on biology of <i>Alophora subcoleoptrata</i> L. and <i>Anantha lateralis</i> Mg., which are parasitic on <i>Eurygaster integriceps</i> Put., the most injurious pest of the grain crop in Middle Asia.  IC 52T66

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USSR/Medicine - Insects Medicine - Taxonomy		Mar 1945		USSR/Medicine - Flies Medicine - Taxonomy	
"Homoptera-Cicadina of Northwestern Iran," A. A. Zakhvatkin, Inst Zool, Moscow U, 10 pp				"Two Remarkable Larvae of Rhyacophila (Trichoptera) From the Streams of Middle Asia," S. G. Lepneva, Inst Zool, Acad Sci USSR, Leningrad, 10 pp	
"Entomologicheskoye Obozreniye" Vol XXVIII, No 3/4				"Entomologicheskoye Obozreniye" Vol XXVIII, No 3/4	
Describes taxonomically five species of Homoptera-Cicadina found in northwestern Iran: Empoasca (Kybos) kiritshenkoe, Empoasca decipiens meridiana, Eupteryx pavlovskii, Edwardsiana iranica, and Ribautiana (gen. n.) tenerrima disjuncta.				Taxonomic description of Rhyacophila gigantea Mart. and Rhyacophila sp. "larva hoplura."	
IC		52T67		IC	
USSR/Metals Quartz Bismuth		Oct 1947		USSR/Metals Magnesium Alloys Cadmium	
"Self-Forming Bismuth in Akchatau Ores," F. V. Chukhrov, 1 p				"A Study of Magnesium-Cadmium Alloys in the Region of the Compound Mg <sub>3</sub> Cd," N. Ageyev, D. Ageyeva, Kur-nakov Inst Genl and Inorg Chem, Acad Sci USSR, Moscow, 14 pp	
"Zapiski Vserossiyskogo Mineralogicheskogo Obshchestva" Series 2, Part LXXVI, No 3				"Acta Physicochimica URSS" Vol XXI, No 4	
Discusses genesis of self-forming bismuth, one of the forms of bismuth found in the Akchatau deposits, located in Karagandinskiy Oblast, Kazakh SSR. Deposits are heavily interlaced with quartz veins. Bismuth located in only one part, the western section, in veins No 152 and 153 at a depth of 30 meters.				Study of magnesium, cadmium alloys in the region of the compound Mg <sub>3</sub> Cd, by means of size and spacings of unit cells, the curve showing the concentration dependence of the spacings of alloys, ratio of the	
FDB		52T69		FDB	
USSR/Minerals Thermal Analysis Coal		Dec 1947		USSR/Metals (Contd)	
"Determination of the Loss of Thermal Value of Sub-Moscow Coal in Storage," T. A. Zikeyev, Candidate Tech Sci, V. M. Tret'yakov, Engr, Fuel Lab VTI, 6½ pp				Jul/Aug 1946	
"Za Ekonomiyu Topliva" No 12				sum of the intensities of the superlattice lines to structure lines, curves of the degree of order, electrical conductivity and thermal coefficient of electrical resistance. Received 25 Sep 1945.	
Study of the change of thermal value of sub-Moscow coal during storage in a pile 10.5 meters high. On the basis of the results received, following conclusions were reached: 1) Fresh, ordinary sub-Moscow coal stored in a high pile soon begins self-heating					
IC		52T71		FDB	
USSR/Minerals (Contd)		Dec 1947		USSR/Minerals Quartz Mica	
in summer. 2) Process of self-heating of coal, depending primarily upon the supply of oxygen, takes place throughout entire pile. 3) Average loss of thermal value of coal in conditions approximating ordinary storage for use in 3 to 6 months was 6.5%.				Oct 1947	
				"Listvenit' of the Pyshminsko-Klyuchev Deposits," Yu. S. Solov'yev, 11 pp	
				"Zapiski Vserossiyskogo Mineralogicheskogo Obshchestva" Series 2, Part LXXVI, No 3	
				Describes 'listvenit', metamorphic rock composed of dolomite, talc, mica, and quartz. Discusses genetic nature of this rock by means of chemical and qualitative analysis. Much interest shown in natural resources of Urals recently, particularly rocks	
IC		52T71		FDB	
				52T72	

RESTRICTED	FDB Periodical Abstracts Scientific No 52	RESTRICTED
USSR/Minerals Terminology Oct 1947 "Rules for the Nomenclature of Minerals by Their Chemical Composition," D. P. Grigor'yev, 6½ pp "Zapiski Vserossiyskogo Mineralogo Obshchestva" Series 2, Part LXXVI, No 3 Many different methods of naming minerals lead to general confusion. Author submits method of naming various minerals according to their chemical composition. Gives examples to prove the value of the new method.	USSR/Minerals (Contd) Oct 1947 and minerals revealing presence of gold or copper. Metasomatic condition of rock studied in the search for gold and copper.	
FDB 52T73	FDB 52T72	
USSR/Minerals Geology Oct 1947 "Mineralogical Section of the Ural Geological Society," D. P. Grigor'yev, Charter Mem of Soc, 1 p "Zapiski Vserossiyskogo Mineralogo Obshchestva" Series 2, Part LXXVI No 3 Discusses briefly sessions of Ural Geological Society held 22 Apr 1947 and 5 May 1947. Discusses some of the articles submitted for judgment; also mentions articles submitted at 12 May 1947 session.	USSR/Minerals Geology Oct 1947 "Rostov Scientific Geological Society," I. D. Sedletskiy, Pres of Soc; K. N. Negadayev, Secy of Soc, ½ p "Zapiski Vserossiyskogo Mineralogo Obshchestva" Series 2, Part LXXVI, No 3 Reports first meeting of Rostov Scientific Geological Society convened at State University imeni V. M. Molotov, 19-22 Apr 1947. Names members of the board, and gives roster of members. Some 200 members admitted. Asserts prime duty of society is to assist State in development of natural mineral resources of USSR.	
FDB 52T74	FDB 52T75	
USSR/Minerals Mineralogy Oct 1947 "All-Russian Mineral Society," S. Solov'yev, Secy of Soc, 2 pp "Zapiski Vserossiyskogo Mineralogo Obshchestva" Series 2, Part LXXVI, No 3 Records briefly proceedings of three meetings of All-Russian Mineral Society. On 19 Feb 1947, Solov'yev, Vardanyants, and Ditsmar presented theses to be read. On 12 Mar 1947, Borisov, Golikov, Kreyter, and Yarzhemskiy were among those elected to membership, and Magak'yan and Vardanyants were among those who pre-	USSR/Minerals Marble Oct 1947 "The Crystallization of Two Olivine Basalts," A. A. Leont'yeva, Lab Experimental Petrography, Inst Geol Sci, Acad Sci USSR, 6½ pp "Zapiski Vserossiyskogo Mineralogo Obshchestva" Series 2, Part LXXVI, No 3 Discusses experiments conducted to study crystallization of basalts. Tests conducted on basalt samples obtained from various sources. Linear speed of crystallization studied by measuring separate crystals at various stages of their formation.	
FDB 52T76	FDB 52T77	
USSR/Minerals (Contd) Oct 1947 sented theses. At 2 Apr 1947 session Grigor'yev, Kassan, Kukarenko, and Nikolayev were among those who presented theses and Zanin, Kurek, Spizharskiy were among those elected to membership.	USSR/Minerals Magnesium Aluminum Oct 1947 "The Chemical Composition of Pictine and Chlorophaite," D. P. Serdyuchenko, 12½ pp "Zapiski Vserossiyskogo Mineralogo Obshchestva" Series 2, Part LXXVI, No 3 Describes chemical composition of pictine, known to exist in 1859, and chlorophaite, first mentioned in 1825. Samples of these minerals obtained from various sources. Chemical composition of minerals from various sources given in tabular form. Both are isomorphs of Mg <sub>3</sub> - Al <sub>2</sub> .	
FDB 52T76	FDB 52T78	



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USSR/Mines and Mining Mining Methods Coal	Nov 1947	USSR/Mines and Mining Mining Machinery Coal	Nov 1947
<p>"Techniques of the Coal Industry in USSR," L. D. Shevyakov, Academician, 7 pp</p> <p>"Ugol'" No 11</p> <p>Long but very general description of mechanization and organization of mining in USSR since October Revolution.</p>		<p>"Routes of Development of the Mechanization of the Coal Industry," A. M. Terpigorev, Academician, 7 pp</p> <p>"Ugol'" No 11</p> <p>Presents general totals on the mechanization of coal production up to 1940 with a general summary of the process. Describes briefly some of the types of machinery used. Gives percentage achievements in individual combines.</p>	
FDB	52T79	FDB	52T80
USSR/Mines and Mining Mining Methods Training	Nov 1947	USSR/Mines and Mining Mining Methods Training	Nov 1947
<p>"Technical Mining Training in the USSR," I. M. Pugach, Engr, 6 pp</p> <p>"Ugol'" No 11</p> <p>Detailed description of mining training, with extensive data on number of students, courses, etc.</p>		<p>"Mining Science in the USSR," A. A. Skochinskiy, Academician, 3 pp</p> <p>"Ugol'" No 11</p> <p>Historical account of the founding of several institutes of applied mineralogical science in USSR and brief summary of general trends of their scientific research work.</p>	
FDB	52T81	FDB	52T82
USSR/Mines and Mining Coal Coke	Dec 1947	USSR/Mines and Mining Coal Coke	Dec 1947
<p>"Let Us Study and Widen the Coal Bases for the Production of Metallurgical Coke," N. P. Chizhevskiy, Academician; D. M. Chernyshev, Candidate Tech Sci, 2½ pp</p> <p>"Ugol'" No 12</p> <p>States that any type of coal can be used for production of dome furnace coke to feed fires for metallurgical industries of Soviet Union. Maintains that it is possible to utilize more sources of raw material</p>		<p>"Determining the Methane Content in Coal Layers," I. M. Yarovoy, Sr Sci Worker, 4 pp</p> <p>"Ugol'" No 12</p> <p>Both the free and the sorption state of methane are found in coal beds. Balance between these two types creates a transfer of methane from one state to another. This transfer depends on temperature and pressure. Author discusses new method of conducting tests to determine methane content of coal</p>	
FDB	52T83	FDB	52T84
USSR/Mines and Mining (Contd)	Dec 1947	USSR/Mines and Mining (Contd)	Dec 1947
<p>to produce coke. States that one of the important tasks for the future is development of new techniques.</p>		<p>beds. First tests undertaken at shafts 1-3 of the Kochegarka Trust, Derezhovka fields. It was possible to determine the status of coal with regard to its sorption properties and to determine amount of methane in coal beds.</p>	
FDB	52T83	FDB	52T84

RESTRICTED	FDB Periodical Abstracts Scientific No 52	RESTRICTED	
USSR/Mines and Mining Mining Methods Bibliography	Dec 1947	USSR/Mines and Mining Mining Methods	Dec 1947
"New Books on Mining," 3 pp		"Cutting Through Top Cagers by a Method of Driving Timber Supports That Have Been Sunk," A. G. Tankilevich, Kh. I. Abramson, Engineers, Laureates of Stalin Prize, 3 1/2 pp	
"Ugol'" No 12		"Ugol'" No 12	
Lists some of the books available in the field of mining that deal with: geology of coal deposits, organization of mining operations, physical and chemical properties of rock, methods of mining, blasting operations, mechanization of mining operations, obtaining of coke, dressing of coal, methods of ventilating mines, and methods of transporting coal and ores.		Discusses main points of method of sinking new shafts by means of caissons which are driven down by means of jacks or screws placed between the top of the caissons and solid part of the mine's top cager.	
FDB	52T85	FDB	52T86
USSR/Mines and Mining Mining Methods Safety	Dec 1947	USSR/Physics Crystallography Aromatic Hydrocarbons	Jul/Aug 1946
"The Makeyev Scientific-Research Institute in Its Struggle for Greater Safety in Mining Industries," I. L. Artemenko, Candidate Tech Sci, 2 1/2 pp		"The Structure of Dibromanthracene and the C--C Distance in the Aromatic Hydrocarbons," A. Kitaygorodskiy, Inst Org Chem, Acad Sci USSR, Moscow, 2 pp	
"Ugol'" No 12		"Acta Physicochimica URSS" Vol XII, No 4	
One of the foremost organizations in the Donbass region which has constantly striven to make mining safer. Ceaseless research attempts to prevent fires, explosions, and poisonous gases from endangering the lives of the miners. The State and the Party are grateful for this institute's work.		Study of the C--C distance in aromatic hydrocarbons by measurements of a dibromanthracene crystal. One of the C--C distances differs essentially from the mean. Doubt expressed regarding validity of the conclusions drawn in a recent study of the structure of coronene by Robertson and White. Received 26 Apr 1946.	
FDB	52T87	FDB	52T88
USSR/Physics Filtration Gases	Oct 1947	USSR/Physics Stellar Systems Stability	Oct 1947
"Approximate Solution of the Problems Concerning the Nonsteady Radial Filtration of Gases According to the Law of Darcy," B. B. Lapuk, 4 pp		"On the Thermodynamic Stability of Isothermic Gaseous Spheres," V. Sorokin, 3 pp	
"Dok Akad Nauk SSSR" Vol LVIII, No 1		"Dok Akad Nauk SSSR" Vol LVIII, No 1	
Presents ordinary argument for simple steady flow adapted to the case of unsteady flow, involving averages. Compares experimental and theoretical results. Submitted by Academician L. S. Leybenzon, 5 Apr 1947.		Mentions further considerations regarding the equilibrium of stellar masses studied by Jeans and Severniy. Gives a brief mathematical treatment to the problem of the critical values determining stability and instability of gaseous masses. Submitted by Academician L. D. Landau, 29 Apr 1947.	
FDB	52T89	FDB	52T90
USSR/Physics Dielectrics - Pressure Effects Dielectrics - Gaseous	Oct 1947	USSR/Physics Light - Measurements Light - Analysis	Oct 1947
"The Measurement of Dielectrical Stable Ethylene Under Pressures up to 2149 Atmospheres," L. F. Vereshchagin, N. S. Dugina, Lab Super Pressure, Inst Org Chem, Acad Sci USSR, 4 pp		"On the Possibility of Measuring Light by Low-Inertial Photometry and of Analyzing it by Demodulation," G. Gorelik, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 3 pp	
"Dok Akad Nauk SSSR" Vol LVIII, No 1		"Dok Akad Nauk SSSR" Vol LVIII, No 1	
Study of the dielectric properties of ethylene as a function of pressure and temperature, shown in tabular and graphical forms. Submitted by Academician G. S. Landsberg.		Brief mathematical treatment of the determination of the amplitude of oscillation of light falling on a small surface, following the theory and methods of Rayleigh. Submitted by Academician S. I. Vavilov, 24 Apr 1947.	
FDB	52T91	FDB	52T92

RESTRICTED

FDB Periodical Abstracts Scientific No 52

RESTRICTED

USSR/Physics  
Phosphorescence  
Phosphorescent Materials

Oct 1947

"On the Influence of the Concentration of a Catalyst on the Phosphorescence of Organoluminophores," B. Ya. Sveshnikov, Luminescence Lab, State Optical Inst, 4 pp

"Dok Akad Nauk SSSR" Vol LVIII, No 1

Studies relationship between time of extinguishing, temperature, and catalytic concentration. Submitted by Academician S. I. Vavilov, 16 Mar 1947.

FDB

52T93

USSR/Physics  
Sound, Underwater - Scattering  
Sound, Underwater - Absorption

Oct 1947

"Reverberation of the Sea in Directed Radiation and the Reception of Sound," Yu. M. Sukharevskiy, Phys Inst imeni Lebedev, Acad Sci USSR, 4 pp

"Dok Akad Nauk SSSR" Vol LVIII, No 1

The dispersion of the direction of radiation and reception, influencing the strength of reverberation, does not influence the speed of diminution of the reverberation. This results from the fact that the coefficients, calculating the effect of the direction, enter as a constant factor, not depending

FDB

52T94

USSR/Physics  
Liquids - Thermal Properties  
Heat Exchange Systems

Nov/Dec 1947

"Heating of a Viscous Liquid by Means of a Revolving Disc," I. A. Kibel', Moscow, 4 pp

"Priklad Matemat i Mekhanik" Vol XI, No 6

Author intends to show by means of formulae that it is possible to obtain an exact solution for the temperature regime during the heating of a viscous fluid by means of a revolving disc. Problems which deal with the heating of a viscous liquid, as a result of a revolving disc, have not been concerned with solving the temperature regime. Solutions of questions

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52T95

USSR/Physics (Contd)

Oct 1947

upon time, into the expressions for the strength of reverberation in a given moment of time. Submitted by Academician S. I. Vavilov.

FDB

52T94

USSR/Physics (Contd)

Nov/Dec 1947

concerning distribution of temperature particularly are lacking. Author expresses gratitude to A. S. Monin for his assistance. Submitted 6 Dec 1947.

FDB

52T95

USSR/Physics  
Liquids - Flow  
Fluid Dynamics

Nov/Dec 1947

"Solutions of Some Problems Concerning the Influx of Liquids in Cracks," M. A. Lukomskaya, Minsk, 8 pp

"Priklad Matemat i Mekhanik" Vol XI, No 6

Discusses the problem of a flat stationary flow of a pure and uncompressed liquid under several conditions. Discusses the research, generation of the functional equations, which are equivalent to the established conditions, relationship between the particulars of the functions, and two types of

FDB

52T96

USSR/Physics  
Filtration  
Liquids

Nov/Dec 1947

"The Theory of the Filtration of Liquids in Porous Matter," P. Ya. Polubarinova-Kochina, S. V. Fal'kovich, Inst Mech, Acad Sci USSR, Moscow, 45 pp

"Priklad Matemat i Mekhanik" Vol XI, No 6

Attempts to characterize development and contemporary state of the theory of filtration in Soviet Union. In particular, discusses that part of field which deals with methods for obtaining an exact solution to problem. Does not discuss theories of filtration

FDB

52T97

USSR/Physics (Contd)

Nov/Dec 1947

sempilanes in various types of porous soils. Submitted 20 Mar 1946.

FDB

52T96

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FDB Periodical Abstracts Scientific No 52

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USSR/Physics (Contd)

Nov/Dec 1947

for gases and gaseous liquids for which there is no exact solution. Submitted 13 Sep 1947.

FDB

52T97

USSR/Radio Receivers  
Radio Operation

Dec 1947

"Work Week of Tadzhik SSR Communicators," K. Tako-  
yev, Tadzhik SSR, 4 pp

"Vestnik Svyazi - Pochta" No 12

Describes briefly operation of a radio set estab-  
lished at a farm imeni Kaganovich, and discusses  
its importance in the social and political life  
of workers at this farm. Explains operations in  
presenting nightly broadcasts to the people at the  
farm, and gives brief historical description of  
development of radio and broadcasting in Tadzhik  
SSR.

FDB

52T98

USSR/Radio Stations  
Radio Equipment

Dec 1947

"Operation of TU-500 Equipment at Radio Centers,"  
P. Tripol'skiy, Chief Engr, Direction of Stalin  
Oblast Radio Networks, 2 1/2 pp

"Vestnik Svyazi - Pochta" No 12

In prewar period, Stalin Oblast had in operation 53  
radio networks which serviced some 100,000 radio  
points. Germans destroyed many of these. In 1945,  
25 new-type TU-500 amplifiers were installed; by end  
of 1946, 42 amplifiers had been installed. Describes  
briefly operation of TU-500 type amplifier.

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52T99

#### List of Abbreviations used in FDB Periodical Abstracts

ID	Intelligence Division Library
AMC	Air Documents Division, Air Materiel Command
ST	Reference Division, State Department
BM	Bureau of Mines, Dept of Interior
BS	National Bureau of Standards
SI	Smithsonian Institution
LC	Library of Congress
FDB	Foreign Documents Branch, CIA
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